

## ABSTRACT OF THE DISCLOSURE

An instrumentation receiver for multichannel simultaneously realtime spectrum analysis with frequency trigger offset inputs a wideband IF signal derived from a wideband RF signal by the receiver to both a wideband IF  
5 channel and a narrowband IF channel simultaneously. The wideband IF signal output from the wideband IF channel is sampled at a high sample rate with relatively low resolution to produce wideband signal data. The wideband IF signal input to the narrowband IF channel is frequency offset by a variable amount according to a region in the wideband IF signal where a frequency  
10 trigger event is expected and then narrowband filtered to produce a narrowband IF signal. The narrowband IF signal is sampled at a relatively low sample rate with high resolution to produce high dynamic range signal data for input to a frequency trigger function.